

David L. Abt

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PROFILE

I am currently a graduate student studying seismology and geophysics. My research focuses on how seismic waves can be utilized to interrogate the Earth and understand dynamic processes in the upper mantle.

EDUCATION

- Sc.M.** (2007), Seismology/Geophysics 2004 - present
Brown University, Providence, RI
Research Focus: *Analyzing and modeling seismic anisotropy in subduction zones*
- B.S.** (2004), Geology, *Magna Cum Laude* with honors 2000 - 2004
University of Oregon, Eugene, OR
Thesis: *Seismic Investigation of the Upper Mantle in Northeast Oregon*

PUBLICATIONS

- Abt, D.L.**, and K.M. Fischer (2008), Resolving three-dimensional anisotropic structure with shear-wave splitting tomography, **Geophys. J. Int.** **173**, 859-886.
- Hoernle, K., **D.L. Abt**, K.M. Fischer, et al. (2008), Geochemical and geophysical evidence for arc-parallel flow in the mantle wedge beneath Costa Rica and Nicaragua, **Nature** **451**, 1094-1098.
- Hales, T.C., **D.L. Abt**, E.D. Humphreys, and J.J. Roering (2005), A lithospheric instability origin for Columbia River flood basalts and Wallowa Mountains uplift in northeast Oregon, **Nature** **438**, 842-845.

PROFESSIONAL EXPERIENCE

- Research Assistant - Brown University** Sept. 2004 - present
Department of Geological Sciences, Tectonophysics
- Interpreting upper mantle processes and conditions with seismology
- Summer Intern - ExxonMobil Corporation** June 2007 - Aug. 2007
Upstream Research Company, Subsurface Imaging
- Saturation and pressure change derivation from 4D seismic data

TEACHING EXPERIENCE

- Graduate Teaching Assistant - Brown University** Sept. 2005 - Dec. 2005
- Introductory Physical Geology: Taught labs on topics such as rocks and minerals, topographic and geologic maps, and plate tectonics. Also gave a formal lecture on mantle convection.
- Undergraduate Teaching Assistant - University of Oregon** Sept. 2003 - Mar. 2004
- Helped conduct and teach introductory geology labs

FIELD EXPERIENCE

- Seismic Array Maintenance and Demobilization - Nicaragua** July 2005, Mar. 2006
- Equipment inspection, retrieval, and organization; Data collection, processing, and interpretation
- U.S.-FSU-EU Structural Geology Field Mapping Course - Kyrgyzstan** Aug. 2004 - Sept. 2004
- Geologic mapping of a transition in a major fault zone with both American and Kyrgyz researchers
- Seismic Array Deployment - Oregon** Mar. 2003 - Sept. 2003
- Station construction (6 sites), maintenance, and removal; data collection, processing, and interpretation
- University of Oregon Geology Field Camp - Oregon/Montana** June 2003 - July 2003
- Geologic mapping and stratigraphic description/interpretation in a variety of settings